

### **REMARKS / ARGUMENTS**

Please note that the claim amendments provided above are offered for the purpose further limiting claim 1 consistent with the specification, and incorporating existing limitations of dependent claim 18 into independent claim 9. *Consequently, no new matter has been added to the claims, and no new search is required.*

This application is believed to be in condition for allowance because the claims, as amended, are non-obvious and patentable over the cited references. The following paragraphs provide the justification for this belief. In view of the following reasoning for allowance, the applicants hereby respectfully request further examination and reconsideration of the subject patent application.

#### **1.0 Objections to the Specification under 35 U.S.C. §132:**

The Office Action of May 3, 2004 objected to the substitute specification, filed October 17, 2004, under 35 U.S.C. §132 as containing new matter which is not supported by the original specification. Therefore, in view of the following discussion, the Applicants respectfully traverse the contention that the substitute specification contains new matter.

#### **1.1 Objection to Page 13, Lines 11-15 of the Specification:**

In point (A) on page 4, the Office Action objects to page 13, lines 11-15 of the substitute specification which states "*during a raster transformation of the first and second sets of digital data, multiple images of the digital data are placed in texture memory as multiple textures. Then, statistics are gathered concerning the textures, and the raster transformed sets of digital data are compared and matched against corresponding portions of each other.*" The Office Action then suggests that the original specification does not "describe a raster transformation to obtain texture values." The Office Action continues by suggesting that the original "specification describes that the raster transformation is a geometric transform such as an incremental rotation or skew."

In response, the Applicants respectfully suggest that no new matter has been added with respect to the cited material. Further, in stark contrast to the position advanced by the Office Action, the Applicants respectfully suggest that the cited text has been misinterpreted by the Office Action, and that they are *not* describing “a raster transformation to obtain texture values.” In fact, the Applicants agree with the position of the Office Action that a “raster transformation *is a geometric transform such as an incremental rotation or skew.*”

Specifically, it should be clear that the cited text is first explaining that “during a raster transformation... multiple images are placed in texture memory as multiple textures.” In view of the both the original specification and the amended specification, it should be clear that this first step is simply explaining that the *raster transformed images* of one of the sets of digital data are *stored in texture memory*. For example, as explained on page 15, lines 10-12, “In this embodiment, the first set of digital data can be stored in the texture memory while the second set of data can be stored in the frame buffer.”

Next, the cited text states “*Then, statistics are gathered concerning the textures, and the raster transformed sets of digital data are compared and matched against corresponding portions of each other.*” This text is clear on its face. Specifically, statistics are gathered concerning the texture images, and then the raster transformed sets of digital data (which are stored in either the texture memory or the frame buffer) are simply compared and matched against corresponding portions of each other. Again, this interpretation is fully supported by the original specification (see for example, page 8, lines 2-11, and claim 1, as originally filed).

Therefore, it should be clear that in the cited text, the Applicants are generally explaining that raster transformed sets of digital data can be stored in texture memory and compared to identify matches. Again, the Applicants are *not* describing “a raster transformation to obtain texture values” as suggested by the Office Action. In fact, the Applicants respectfully suggest there is no support in the specification for interpreting the cited text to describe such a feature, and that such an interpretation does not make sense in view of the either original specification, or the amended specification.

Further, in point (A), the Office Action also suggests that “the original specification did not describe or suggest that the system gathered statistics concerning textures.” The Applicant’s respectfully disagree with this suggestion.

For example, on page 10, lines 11-19 of the original specification, the Applicants explain the following:

“The address generator 414 interpolates these parameters across the triangle; for each pixel in the first memory device subtended by the triangle in screen space (sx sy), ***the second memory device is used to compute an interpolated texture value*** at the corresponding interpolated texture location. The ***comparison statistics between the two colors are then gathered, depending on the results of the acceptance test.*** This operation can be considered as a resampling operation being applied to the texture, which involves filtering the texture at different locations and at different densities.”  
(emphasis added)

In view of the above-quoted text, it should be clear that gathering statistics concerning textures is fully supported in the original specification. Consequently, the Applicants respectfully suggest that no new matter has been added in page 13, lines 11-15 of the substitute specification. Therefore, the Applicants respectfully traverse the contention of new matter in page 13, lines 11-15 of the substitute specification, and request that the objection to the text of page 13, lines 11-15, of the substitute specification be withdrawn.

## **1.2 Objection to Page 13, Lines 26-29 of the Specification:**

Next, in point (B) on page 5, the Office Action objects to page 13, lines 26-29 of the substitute specification which states “*as the data is passed through the rasterization pipeline of the graphics processor, statistics between the textures are gathered and processed via the statistical comparison processor.*” The Office Action then suggests that the original specification does not “describe that the statistical comparison processor gathers statistics

**between texture** values.” The Office Action then describes some of the data that is accumulated by the statistics compare comparison processor (as described on page 12, lines 1-14, of the original specification), and reiterates that the “original specification does not describe or suggest gathering statistics between textures.”

In contrast to the position advanced by the Office Action, the Applicants respectfully suggest that no new matter has been added with respect to the cited material. In particular, as explained above with respect to point (A), in one embodiment, raster transformed images of one of the sets of digital data are stored in texture memory. Then, **statistics are gathered for the images in texture memory**. In other words, statistics are gathered for the texture images.

In addition, this feature is also disclosed with respect to FIG. 5, and the associated discussion in the “Working Example” provided in the original specification on pages 14-17. For example, the original specification describes the use of textured triangle rasterization techniques for template matching on page 16, lines 3-7 as follows:

“In one specific embodiment of the example of FIG. 5, **the template is treated as a texture** and the frame buffer an image and the display primitive for rendering purposes is a triangular polygon. In addition, **instead of rasterizing the texture into the frame buffer, certain statistics can be recorded for normalized correlation or other statistics can be recorded for variations.**” (emphasis added)

Clearly, in view of both FIG. 5, and the above-cited text, the original specification fully supports and discloses “gathering statistics between textures.” Consequently, the Applicants respectfully suggest that no new matter has been added in page 13, lines 26-29, of the substitute specification. Therefore, the Applicants respectfully traverse the contention of new matter in page 13, lines 26-29 of the substitute specification, and request that the objection to the text of page 13, lines 26-29 of the substitute specification be withdrawn.

**1.3 Objection to Page 16, Lines 17-24 of the Specification:**

Next, in point (C) on page 5, the Office Action objects to page 16, lines 17-24 of the substitute specification which explains that "the system gathers statistics between color values." The Office Action then states that the "original specification does not describe the use of color values for performing statistical comparisons."

In contrast to the position advanced by the Office Action, the Applicants respectfully suggest that no new matter has been added with respect to the cited material. In particular, in page 14, lines 13-19 of the original specification, the Applicants explain the following:

***"In addition, the alpha values in the input colors can be used to weight the statistics.*** For example, if  $\alpha_T$  is the template alpha and  $\alpha_i$  the image alpha, then a new  $\alpha$  can be derived from these values by selecting one, or by doing a weighted blend between them. ***The resulting  $\alpha$  could then be used to weight the pixel's contribution to the above-described statistics.*** Among other things, this would allow pixels to be importance-weighted by the application." (emphasis added)

Similarly, on page 11, lines 5-11 of the original specification, the Applicants explain the following:

"The addresses serve as input to filtering functions that read from the images to be compared and generate ***color values (RGBA)*** and, if present, Z buffer and other per-pixel values. These values can be used by the acceptance tester 416 to decide whether to allow the pixel to contribute to the statistics. If the pixel is permitted to contribute, ***the color values are sent to a statistics/comparison device 418 for statistical analyses and comparison processing.***" (emphasis added)

Clearly, the original specification fully supports the use of color values in performing statistical comparisons. Consequently, the Applicants respectfully suggest that no new matter has been added in page 16, lines 17-24, of the substitute specification. Therefore, the Applicants respectfully traverse the contention of new matter in page 16, lines 17-24 of the substitute specification, and request that the objection to the text of page 16, lines 17-24 of the substitute specification be withdrawn.

#### 1.4 **Objection to Page 23, Lines 1-3 of the Specification:**

Next, in point (D) on page 5, the Office Action objects to page 23, lines 1-3 of the substitute specification which states "it has been observed that textured triangle rasterization performed in a conventional graphics processor or the like closely resembles sparse matching of a template with an image." The Office Action then states that the "original specification did not describe such an equivalence between textured triangle rasterization and template matching."

In contrast to the position advanced by the Office Action, the Applicants respectfully suggest that no new matter has been added with respect to the cited material. In particular, the use of textured triangle rasterization techniques for template matching is clearly described on page 16, lines 3-10 of the original specification as follows:

*"In one specific embodiment of the example of FIG. 5, **the template is treated as a texture** and the frame buffer an image and the **display primitive for rendering purposes is a triangular polygon**. In addition, **instead of rasterizing the texture into the frame buffer, certain statistics can be recorded for normalized correlation or other statistics can be recorded** for variations. In one example, **if the texture is considered a template and the frame buffer an image, the graphics processor 513 can be used to resample the template using a perspective transformation.**" (emphasis added)*

The Applicants believe that the inclusion of the note regarding the observation that "textured triangle rasterization performed in a conventional graphics processor or the like closely

resembles sparse matching of a template with an image” prior to the above cited text serves only to further clarify the above-cited text without adding new matter. In particular, the above cited text explains that the **template** (i.e., the set of digital data that is to be matched to the image) is **treated as a texture**, and triangular polygon display primitives are used for rendering purposes. Consequently, the Applicants believe that the above noted observation is fully consistent with the specification as originally filed, and that it improves the readability of the patent application without affecting either the scope of the specification or the claims.

Clearly, the original specification fully supports the observation that “textured triangle rasterization performed in a conventional graphics processor or the like closely resembles sparse matching of a template with an image” relative to the original discussion of treating templates as textures, as cited above. Consequently, the Applicants respectfully suggest that no new matter has been added in page 23, lines 1-3, of the substitute specification. Therefore, the Applicants respectfully traverse the contention of new matter in page 23, lines 1-3 of the substitute specification, and request that the objection to the text of page 23, lines 1-3 of the substitute specification be withdrawn.

## **2.0 Rejections under 35 U.S.C. §102(b):**

In the Office Action of May 3, 2004, claims 6-8 were rejected under 35 U.S.C. §102(b), as being anticipated by Sacks, et al. (“**Sacks**,” U.S. Patent 4,736,437 A).

A rejection under 35 U.S.C. §102(b) requires that the Applicant's invention was described in a printed publication more than one year prior to the date of application for patent in the United States. To establish that a printed publication describes the Applicant's invention, all of the claimed elements of an Applicant's invention must be considered, especially where they are missing from the prior art. If a claimed element is not taught in the referenced patent, then a rejection under 35 U.S.C. §102(b) is not proper, as the Applicants claimed invention can be shown to be patentably distinct from the cited reference.

## 2.1 Rejection of Claims 6-8 over Sacks:

In the rejection of claims 6-8, the Office Action states that as “described in the final rejection mailed on May 16, 2003, Sacks et al. describes that an angle rotator initially rotates the scanning line of the information stored in the reference memory 16 (i.e., rendering model transformations).” The Office Action then equates this “angle rotator” feature to the graphics rasterizer described by the Applicants.

However, as previously explained by the Applicants, the pattern recognizer described by **Sacks** is not capable of performing the claimed process of **rendering model transformations**. For example, on page 19, lines 13-16 of the Applicants’ substitute specification, the Applicants’ explain that “... a transform is applied to either the input image or the template, in order to find **transformed versions** of the template object. **Typical transformations include combinations of rotations, scales and perspective transforms...**” (emphasis added).

In stark contrast, **Sacks** does not appear to be capable of performing such transformations. In particular, rather than actually performing any such transformations, **Sacks** discloses simply reading a stored video memory from various scan line angles. However, the ability to read a stored video memory from various scan line angles is in no way equivalent to actually **rendering a model transformation**. In fact, **Sacks** actually **teaches away** from performing such transformations.

Specifically, as described by **Sacks** in col. 6, lines 29-35:

“The function of the pattern recognizer is based upon the principal of first **loading reference data** concerning a part under investigation from the video input 14 through the CPU 10 and **into a reference memory 16**. The CPU 10 also controls a **rotator 18 that is capable of reading out the addressed information in the reference memory 16 along any scan line** varying from zero through 360 degrees. **The rotator 18 controls the angle of scan and**



**does not physically rotate anything but simply allows the reference memory located in 16 to be scanned out at any selected scan angle.**  
(emphasis added)

Clearly, in view of the above-quoted text, **Sacks** is **not** rotating or otherwise transforming images in the manner disclosed and claimed by the Applicants. In fact, it is only reading a 2D video memory at various scan angles. Further, as noted above **Sacks** specifically states that the angle “rotator 18 **does not physically rotate anything**” (emphasis added). In addition, the Applicants’ believe and respectfully suggest that those skilled in the art would simply not accept the proposition that reading a video memory along a scan line is equivalent to **rendering model transformations** as performed by a **3D graphics rendering device**.

In addition, because **Sacks** specifically states that the angle “rotator 18 **does not physically rotate anything**” (emphasis added), there is no support for the contention by the Office Action that **Sacks** discloses the claimed element of “**adjusting the model transformations based on the accumulated statistics**” (emphasis added). Clearly, in this context, simply rotating a video memory scan line can not be considered an adjustment to a model transformation as disclosed and claimed by the Applicants.

Further, the **Sacks** reference also explains that it is “**impractical**” to employ conventional image rotation techniques and that the described rotating scan line reads of image memory are preferable to those conventional techniques. In particular, in col. 5, lines 19-32, **Sacks** explains that:

**“Prior art systems for electronic image rotation required enormous calculation and storage capacity. The calculation time required and the hardware necessary to implement the rotation operation made it impractical to employ rotational correlation in prior art systems.”** (emphasis added)

“In the present invention the rotation is achieved by calculating only six variables for each angle to be stored in memory. This means that it is possible to rotate 360 angles with a minimal amount of memory and, further, that it is possible to implement all procedures in fast real time hardware since there is no requirement for multiplication or trigonometric function computation and no complicated or expensive hardware other than simple accumulators or adders.”

Consequently, the Applicants respectfully suggest that **Sacks** not only fails to disclose the Applicants claimed **3D graphics rendering system for rendering model transformations**, it also specifically **teaches away** from performing such transformations. Therefore, it is clear that the present invention, as claimed by independent claim 6 includes elements not taught in the **Sacks** reference. Consequently, the rejection of independent claim 6, and of dependent claims 7-8, under 35 U.S.C. §102(b) is not proper. Therefore, the Applicants respectfully traverse the rejection of claims 6-8 under 35 U.S.C. §102(b), and request reconsideration of the rejection of claims 6-8 in view of the novel language of claim 6, as cited below:

In particular, claim 6 recites the following novel language:

“A method for comparing and matching a first set of digital data to at least a second set of digital data, comprising:

loading at least one of the first and second sets of digital data into a first memory device;

using a **3D graphics rendering device for rendering model transformations** and accumulating statistics of the loaded digital data, said **3D graphics rendering device modified to include a statistical processor,**

**adjusting the model transformations** based on the accumulated statistics;  
and

statistically comparing and matching the model transformations of the loaded set of digital data to appropriately corresponding portions of the other set of digital data." (emphasis added)

### 3.0 Rejections under 35 U.S.C. §103(a):

In the Office Action of May 3, 2004, claims 1-5 were rejected under 35 U.S.C. §103(a) as being unpatentable over **Sacks**, Segal et al (the book entitled "The OpenGL<sup>®</sup> Graphics System: A Specification (Version 1.2.1)") (hereinafter **Segal**), and further "in combination with well known prior art." In addition, claims 9-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Neff et al. ("**Neff**," U.S. Patent 5,809,171 A), **Segal**, and further "in combination with well known prior art."

In order to deem the Applicant's claimed invention unpatentable under 35 U.S.C. §103(a), a prima facie showing of obviousness must be made. However, as fully explained by the M.P.E.P. Section 706.02(j), to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, ***the prior art reference (or references when combined) must teach or suggest all the claim limitations.***

Further, in order to make a prima facie showing of obviousness under 35 U.S.C. 103(a), all of the claimed elements of an Applicant's invention must be considered, especially when they are missing from the prior art. If a claimed element is not taught in the prior art and has advantages not appreciated by the prior art, then no prima facie case of obviousness exists. The Federal Circuit court has stated that it was error not to distinguish claims over a combination of prior art references where a material limitation in the claimed system and its purpose was not taught therein (*In Re Fine*, 837 F.2d 107, 5 USPQ2d 1596 (Fed. Cir. 1988)).

### 3.1 Rejection of Claims 1-5:

In general, the Office Action rejected independent claim 1 under 35 U.S.C. §103(a) based on the rationale that “it is well known in the prior art to use a computer graphics card for raster transforming at least one of the first set of digital data and the second set of data and performing a pixel acceptance test using a pixel acceptance tester.” The Office Action then continued by suggesting that “it is ***not well known in the prior art*** to a) accumulate statistical information for each of the first set of digital data and the second set of digital data using a statistical processor... and b) to include the statistical processor in the computer graphics card.” (emphasis added)

The Office Action then suggests that with respect “difference b) Segal et al. discloses a graphics card with an included statistics processor (see page 234, section D.9.4: The reference described a software interface to graphics hardware that allows for the accumulation of statistical information regarding pixels (i.e., statistics processor)).”

However, Section D.9.4 of the **Segal** reference (entitled “Pixel Pipeline Statistics”) reads in its entirety:

“Pixel operations that ***count occurrences of specific color component values*** (histogram) and that ***track the minimum and maximum color component values*** (minmax) are performed at the end of the pixel transfer pipeline.”

In other words, the entirety of the disclosed capability of the **Segal** reference with respect to “statistics” is to simply count occurrences of pixel colors and track maximum and minimum color values. The Office Action equates this disclosed capability to the “statistical processor” of the Applicant's claimed invention.

In stark contrast, claim 1, as amended, further defines and limits the “statistical processor” as using the ***“results of a pixel acceptance test”*** in “performing a statistical

comparison between... ***the first set of digital data and... the second set of digital data...*** by “***statistically comparing and matching the raster transformed sets of digital data to appropriately corresponding portions of each other...***” Further, ***Segal*** merely discloses collecting pixel count and value information for all pixels in the pixel pipeline, rather than limiting collection of information relative to a pixel acceptance test. Clearly, the Applicants’ claimed statistical processor is not disclosed by the alleged statistical capability of the ***Segal*** reference.

Next, the Office Action offers ***Sacks*** as disclosing accumulating “statistical information for each... set of digital data using a statistical processor and statistically comparing ***raster transformed sets*** of digital data to appropriately corresponding portions of each other...” (emphasis added)

However, as explained above with respect to the rejection of claims 6-8 under U.S.C. §102(b), ***Sacks*** not only fails to disclose the Applicants use of a computer graphics card for ***raster transforming*** the sets of digital data, it also specifically ***teaches away*** from performing such transformations. In particular, as noted above, ***Sacks*** explains that “***The rotator 18 controls the angle of scan and does not physically rotate anything but simply allows the reference memory located in 16 to be scanned out at any selected scan angle.***” (emphasis added)

Therefore, the Applicants respectfully suggest that the addition of the ***Sacks*** rotating memory scanning and comparison capability to the ***Segal*** pixel counting capability described above fails to disclose the Applicants’ claimed “statistical processor” which performs statistical comparisons between sets of raster transformed digital data based upon the results of a pixel acceptance test. In addition, as noted above, the Applicants have further amended claim 1 to make it clearer that the “statistical processor” included in the computer graphics card performs statistical comparisons ***between the sets*** of the digital data depending upon the results of the aforementioned pixel acceptance test following raster transformation of one or both of the sets of digital data.

Thus, it is clear that the present invention, as claimed by independent claim 1 includes elements not taught in the proposed **Prior Art-Sacks-Segal** combination reference. Consequently, the rejection of independent claim 1 and of dependent claims 2-5, as amended, under 35 U.S.C. §103(a) is not proper. Therefore, the Applicant respectfully requests reconsideration of the rejection of claims 1-5 under 35 U.S.C. §103(a) in view of the novel language of claim 1, as amended. In particular, claim 1 now recites the following novel language:

“A method for comparing and matching a first set of digital data to at least a second set of digital data, comprising:

using a computer graphics card for **raster transforming** at least one of the first set of digital data and the second set of digital data;

**depending upon the results of a pixel acceptance test** performed by an acceptance tester included in the computer graphics card, **performing a statistical comparison between at least part of the first set of digital data and at least part of the second set of digital data using a statistical processor included in the computer graphics card**; and

wherein the statistical comparison includes **statistically comparing and matching the raster transformed sets of digital data to appropriately corresponding portions of each other using the statistical processor.**” (emphasis added)

Further, with respect to comparing the **Sacks** reference to the elements of claims 2-5, the Applicants have explained that the **Sacks** reference fails to teach the claimed element of **raster transformation** of the sets of digital data that are being compared, and in fact teaches away from such raster transformation of the data as disclosed and claimed by the Applicants.

Consequently, the Applicants' respectfully suggest that the **Sacks** reference fails to teach the element of “using the computer graphics card for **generating new transformations**” in claim 2. Similarly, the Applicants' respectfully suggest that the **Sacks**

reference fails to teach the element of “statistically comparing the ***raster transformed sets of digital data...***” in claim 3. In addition, the Applicants’ respectfully suggest that the ***Sacks*** reference fails to teach the element of “wherein the raster transforming comprises ***raster transforming at least one of the first or the second set of digital data*** and computing statistics on the transformation” in claim 4. Finally, the Applicants’ respectfully suggest that the ***Sacks*** reference fails to teach the element of “***analyzing the computed statistics of the transformation*** and ***calculating new and different transformations*** on the digital data” in claim 5.

Consequently, the rejection of dependent claims 2-5 under 35 U.S.C. §103(a) is not proper, as the cited art fails to disclose each of the elements of those claims. Therefore, the Applicant respectfully requests reconsideration of the rejection of claims 2-5 under 35 U.S.C. §103(a) in view of the novel language of claims 2-5, as summarized above, and in further view of the aforementioned amendment to claim 1.

### **3.2 Rejection of Claim 9:**

With respect to claims 9-20, the Office Action rejected independent claim 9 under 35 U.S.C. §103(a) based on the rationale that the Applicants’ describe and claim a conventional graphics card with the addition of “***elements that are not well known in the prior art including*** a) a statistics enable switch wherein accumulation of information... is enabled... b) a statistical compare processor included in the graphics card, and c) accumulating information for each digital template and statistically comparing and matching images associates with the templates for tracking the templates based on the accumulated information.”

The Office Action then first addresses point b) by suggesting that “with respect to difference b) Segal et al. discloses a graphics card with an included statistics processor (see page 234, section D.9.4: The reference described a software interface to graphics hardware that allows for the accumulation of statistical information regarding pixels (i.e., statistics processor)).” The Office Action then concludes that it would have been obvious

“to modify the well known graphics card by adding a statistics processor as taught in Segal et al. because the use of ***such a configuration would decrease the size and cost of the system***, thus increasing overall efficiency.” (emphasis added)

First, the Applicants’ respectfully suggest that the inclusion of ***additional circuitry*** in a device such as a computer graphics card tends to naturally ***increase the size of the circuit***, as there is more circuitry. Further, the inclusion of ***additional circuitry*** in a device such as a computer graphics card tends to naturally ***increase the cost*** of that graphics card, again because there is more circuitry. Consequently, the Applicants’ respectfully disagree with the stated rationale for adding the ***Segal*** “statistics processor” to a conventional graphics card. Consequently, based on the rationale stated by the Office Action, the Applicants respectfully suggest that the combination suggested by the Office Action is invalid because the suggested combination is itself based on an apparently invalid rationale.

However, regardless of the invalidity of the suggested combination reference, the Applicants have also included additional limitations in claim 9 that are neither taught or suggested by any combination of the prior art. In particular, the limitations of claim 18 with respect to the use of pixel alpha values for weighting statistics have been incorporated into claim 9.

However, with respect to the use of alpha values for weighting statistics as originally recited in claim 18, it should be noted that the Office Action suggests that on page 22, lines 19-28 that ***“the applicant has disclosed that such a weighting method is conventional in the art...”*** (emphasis added). However, ***the Applicants have made no such disclosure***. In fact, the Applicants’ respectfully suggest that the Office Action has ***incorrectly characterized*** the Applicants’ claimed invention.



In particular, page 22, lines 19-28 reads as follows:

“Conventionally... ***alpha blending***... corresponds to the opacity of a surface. This provides control of the amount of color of a pixel in the source surface to be blended with a pixel in the destination surface. ***However, as noted above, in the context of the present invention, alpha values associated with pixels are instead used for weighting computed statistics.*** Consequently, when the statistics enable switch 520 is enabled, the statistics/comparison device 518 uses conventional weighting methods for weighting the statistics ***relative to the alpha values associated with the pixels.***

When read in the context of the overall specification (for example, see page 20, line 27 to page 21, line 5 of the substitute specification and page 10, lines 13-19 of the original specification and page 11, lines 5-11 of the original specification), it should be clear that the Applicants are explaining that conventional methods for weighting statistics are known, and that such known weighting methods are used to weight the statistics. However, the Applicants respectfully suggest that it is neither known in the prior art, nor suggested anywhere in the Applicants original or substitute specifications, that it is known to use ***pixel alpha values*** to weight such statistics using the known weighting methods following the enabling of a statistics enable switch included in the graphics card. This is a novel use of pixel alpha values that allows for a broader use of otherwise conventional RGBA pixel information supplied to the modified graphics card than would otherwise be possible.

***In other words, the cited text of the Applicants' specification should be interpreted to mean that while it is known to weight statistical information, unlike the traditional use of pixel alpha values, in the context of the present invention, pixel alpha values are themselves used as weighting factors for the computed statistical information. This novel use of alpha values is not known in the prior art, and the Applicants do not suggest that it is known in the prior art.***

Therefore, the Applicants respectfully suggest that the interpretation of the text of page 22, lines 19-28 offered by the Office Action is in error, and that the limitations of claim 18 (now incorporated by amendment into claim 9) provide novel subject matter in claim 9 in view of the proposed **Prior Art-Neff-Segal** combination reference. Consequently, the rejection of dependent claim 9 under 35 U.S.C. §103(a) is not proper. Therefore, the Applicant respectfully requests reconsideration of the rejection of claim 9, and thus of dependent claims 10-20 under 35 U.S.C. §103(a) in view of the novel language of claim 9. In particular, claim 9 recites the following novel language:

“A system for tracking digital templates of a digital scene defined by plural images, comprising:

a computer graphics card including a raster processor that transforms at least one of the templates;

**a statistics enable switch included in the computer graphics card**, wherein accumulation of information for each digital template is enabled when said statistics enable switch is enabled, and wherein said computer graphics card provides the at least one transformed template to a frame buffer included in the computer graphics card when said statistics enable switch is disabled;

a statistical compare processor included in the computer graphics card that accumulates information for each digital template and statistically compares and matches images associated with the templates for tracking the templates based on the accumulated information when said statistics enable switch is enabled; and

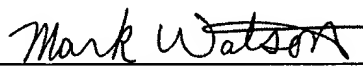
wherein the statistical compare processor allows **use of pixel alpha values for weighting statistical information** used by the statistical compare processor for simultaneously and statistically comparing and matching images associated with the templates for tracking the templates.”  
(emphasis added).

**CONCLUSION**

In view of the above, it is respectfully submitted that claims 1-17 and 19-20, as amended, are in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of claims 1-17 and 19-20, and to pass this application to issue. Additionally, in an effort to further the prosecution of the subject application, the Applicant kindly invites the Examiner to telephone the Applicant's attorney at (805) 278-8855 if the Examiner has any questions or concerns.

Respectfully submitted,

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